

WHAT'S NEW?

APL / GEOTECHNICAL



APPROVED PRODUCTS LIST

- Changes made to APL
- Searching PDF
- Reminders



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Traffic Safety Products

Construction Products

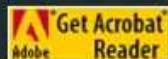
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[Mark Lindemann](#) at 402-479-4752

Nebraska Qualified Material Vendors List

- [Asphalt Producers List](#)
- [Rock & Gravel Producers List](#)
- [Ready Mix Producers List](#)
- [Reinforced Concrete Pipe and Flared End Section Manufacturers](#)

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Approved Products Forms, - Materials and Research Policies & Info

- [New Product Evaluation Form](#)
- [New Product Evaluation Flow Chart](#)



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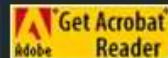
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Concrete	Download
Asphalt	(able PDF)
Erosion Control	
Geosynthetics	ents?
MSE Walls	1:
Paint Systems/Primers	2-479-4678
Electrical Conduits and Duct Systems	2-479-4752
Pavement Sub-Base Stabilization	
Post-Applied Coatings-Corrugated Metal Pipe	
Aluminum Filled-Resilient Sealing Compounds	
Preformed Plastics for Pipe Joints-Rope Form	
Prefabricated Cast Steel Pile Points	and Section Manufacturers
Detectable Warning Panels	atories
Flexible Pipe Joints	
Culvert Repair Liner Systems	
Polymer Composite Offset Blocks for Guardrail	Research Policies & Info
Impact Attenuators	
Hot Pour Sealers	



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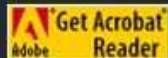
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Preformed Plastics for Pipe Joints-Rope Form

Prefabricated Cast Steel Pile Points

Detectable Warning Panels

Flexible Pipe Joints

Culvert Repair Liner Systems

Polymer Composite Offset Blocks for Guardrail

Impact Attenuators

Hot Pour Sealers

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479-4752

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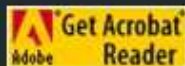
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Geosynthetics

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NOTE: The Nebraska Departments of Roads, Materials and Research Division relies on the AASHTO National Transportation Product Evaluation Program (NTPEP) data for verification and evaluation of Geosynthetic products. Therefore we are requiring all Geosynthetic products being submitted for approval must be submitted through the NTPEP.

**** For use in the stabilization and/or separation of soil & aggregate in highway construction**

Geotextile

- **Woven - AASHTO M 288-05**
 - [Class I Strength](#)
 - [Class II Strength](#)
 - [Class III Strength](#)
- **Non-Woven - AASHTO M 288-05**
 - [Class I Strength](#)
 - [Class II Strength](#)
 - [Class III Strength](#)

[Geogrids](#)

Filter Fabric

- [Riprap](#)
- [Pipe Underdrains](#)
- [Subsurface Drainage Matting](#)



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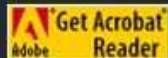
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- Detectable Warning Panels
- Flexible Pipe Joints
- Culvert Repair Liner Systems
- Polymer Composite Offset Blocks for Guardrail
- Impact Attenuators
- Hot Pour Sealers

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Asphalt

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[Cold Mix Bituminous Patch Materials](#)

Fabric Reinforcement

- [Crack Application](#)
- [Full Width Application](#)

[Release Compounds](#)





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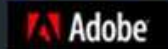
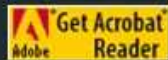
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APPROVED PRODUCTS LIST

- Luminaries
- Pull Boxes
- Traffic Control Devices
- Changeable Message Sign
- Pavement Markings
- Traffic Signals
- Pedestrian Barricades**

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Pedestrian Barricades

Section 422

Updated on 2-23-12

PRODUCT	MANUFACTURER
Pedestrian Access Route Barricade	Pexco
Safety Wall Pedestrian Barricade	Plastic Safety Systems, Inc
Safety Rail Pedestrian Barricade	
ADACade	TrafficWorks



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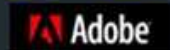
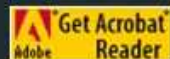
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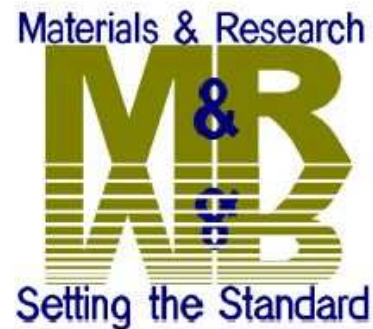
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This document was created to allow user the ability to search through the Approved Products List more efficiently.

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Updated: 2/23/2012



Comment

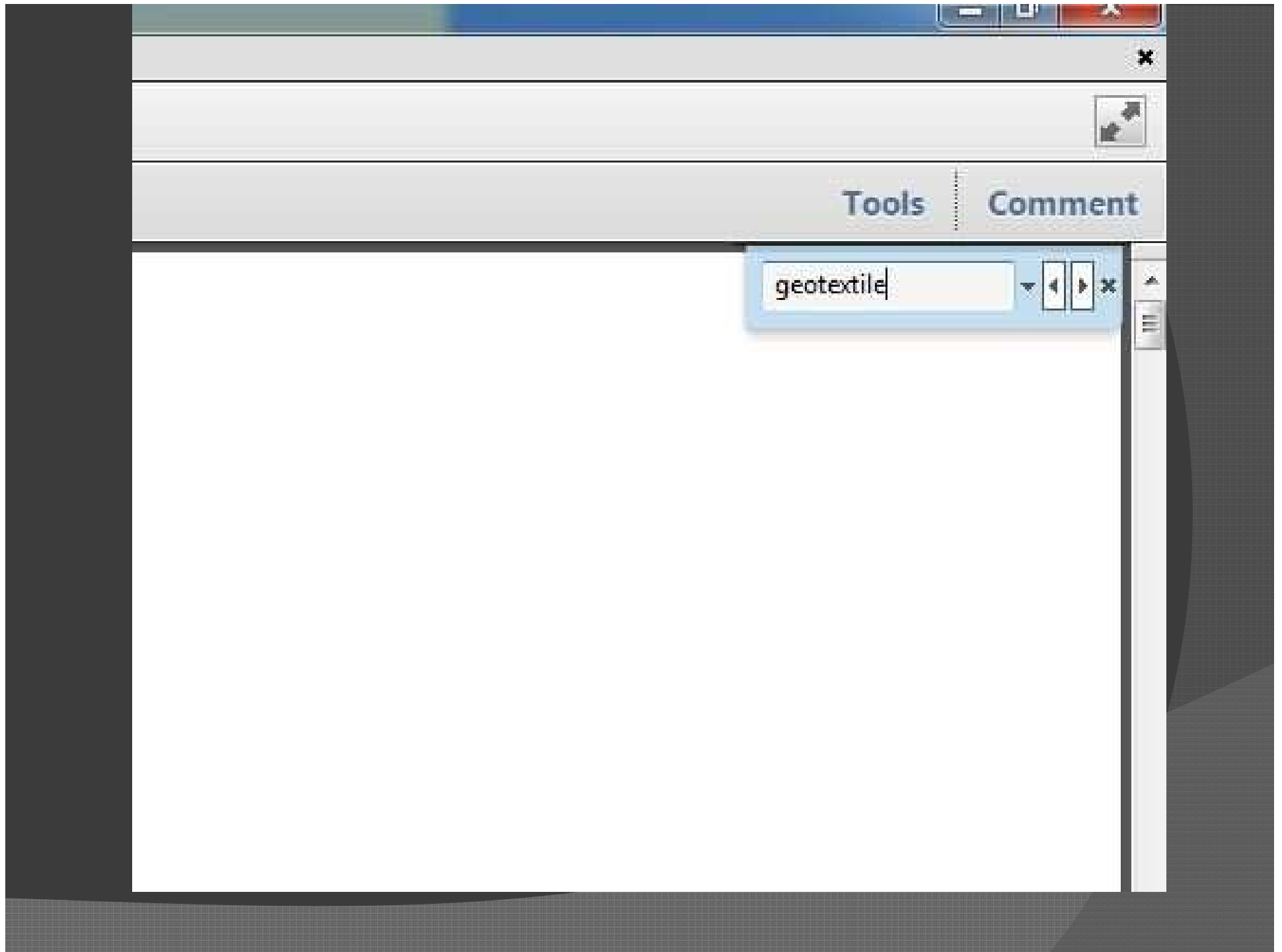
Sign

Find

x

Department of Roads
Approved Products List more efficiently.

Products List



Open Weave Textile

Type B

Updated on 1-3-08

PRODUCT	MANUFACTURER
CocoMat 7	New England Geotextiles Co. Inc.
CocoMat CM 7000	King Fibre Corp
Koirmat Mat 700	Nedia Enterprises
Bio Mat 70	Rolanka
Dekowe 700	Belton Industries

Fabric Silt Fence

Type Coir Fiber

Updated on 1-3-08

PRODUCT	MANUFACTURER
M2V4 / H2M4	New England Geotextiles
KOIRFENCE 1250	Nedia Enterprises, Inc
CCM-NEG	New England Geotextiles/King Fibre

Geosynthetics

Geotextile

- Woven
 - Class I Strength
 - Class II Strength
 - Class III Strength
- Non-Woven - AASHTO M 288-05
 - Class I Strength
 - Class II Strength
 - Class III Strength

Geogrids

Filter Fabrics

- Rock Riprap
- Pipe Underdrains
- Subsurface Drainage Matting

Geotextiles – Woven

Class I Strength (AASHTO M 288-05)

Updated on 2-25-11

PRODUCT	MANUFACTURER
Geotex GT – 4x4HF	Propex, Inc.
Geotex WS-315ST	
Geotex GT-2x2HF	
GTF 300	Thrace-LINQ, Inc
Mirafi FW404	TenCate Geosynthetics North America
Mirafi 600X	

APL

- ⦿ Proper product for the application
- ⦿ Change in material from bid, need to do a change order to document.



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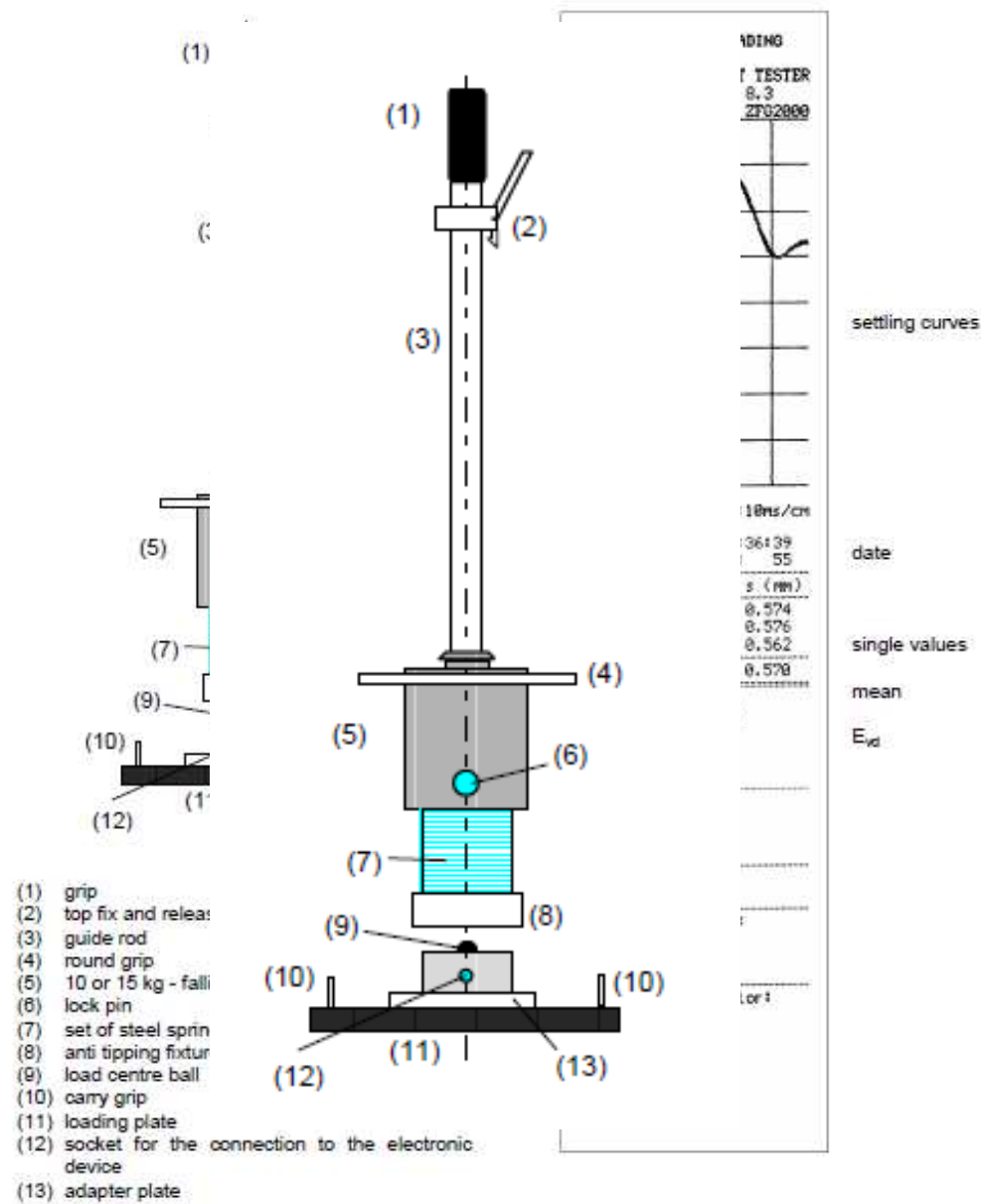
NON-NUCLEAR DENSITY TESTING

- ⦿ LWD – Light Weight Deflectometer
- ⦿ Nuclear density gauges
 - Regulatory
 - Licensing
 - Storage
 - Training
 - Costs add



View of the device

Printout of the miniprinter



How LWD Works

- ⦿ Prep surface
- ⦿ Drop weight 3x – Seating
- ⦿ Drop weight 3x – Measurements
- ⦿ Measures
 - Velocity
 - Deflection
 - Modulus

DYNAMIC PLATE LOADING
TEST with
LIGHT DROP-WEIGHT TESTER
TP BF-StB Teil B 8.3
Instrument: ZORN ZFG2000



deflection curves

date and time of test

s: 0.2 mm/cm t: 10ms/cm
Fr 23.02.01 10:02:35
Nr: 1

deflections

sinking in speed

No.	v (mm/s)	s (mm)
1.	219.7	0.583
2.	223.2	0.589
3.	220.7	0.578
M	221.2	0.583

mean values

s/v: to evaluate
compression

s/v = 2.635 ms
Evd = 38.6 MN/m²
Weather:

Evd: dynamic
deformation module

Project:

Plate base:

Testarea, -layer:

Institute, operator:

Video



How LWD Works

- ⦿ Compares stiffness – not density
- ⦿ Density - indirect parameter of stiffness
- ⦿ Small variations in density – Large changes in stiffness
- ⦿ LWD (Stiffness) more sensitive to changes in compaction

How LWD Works

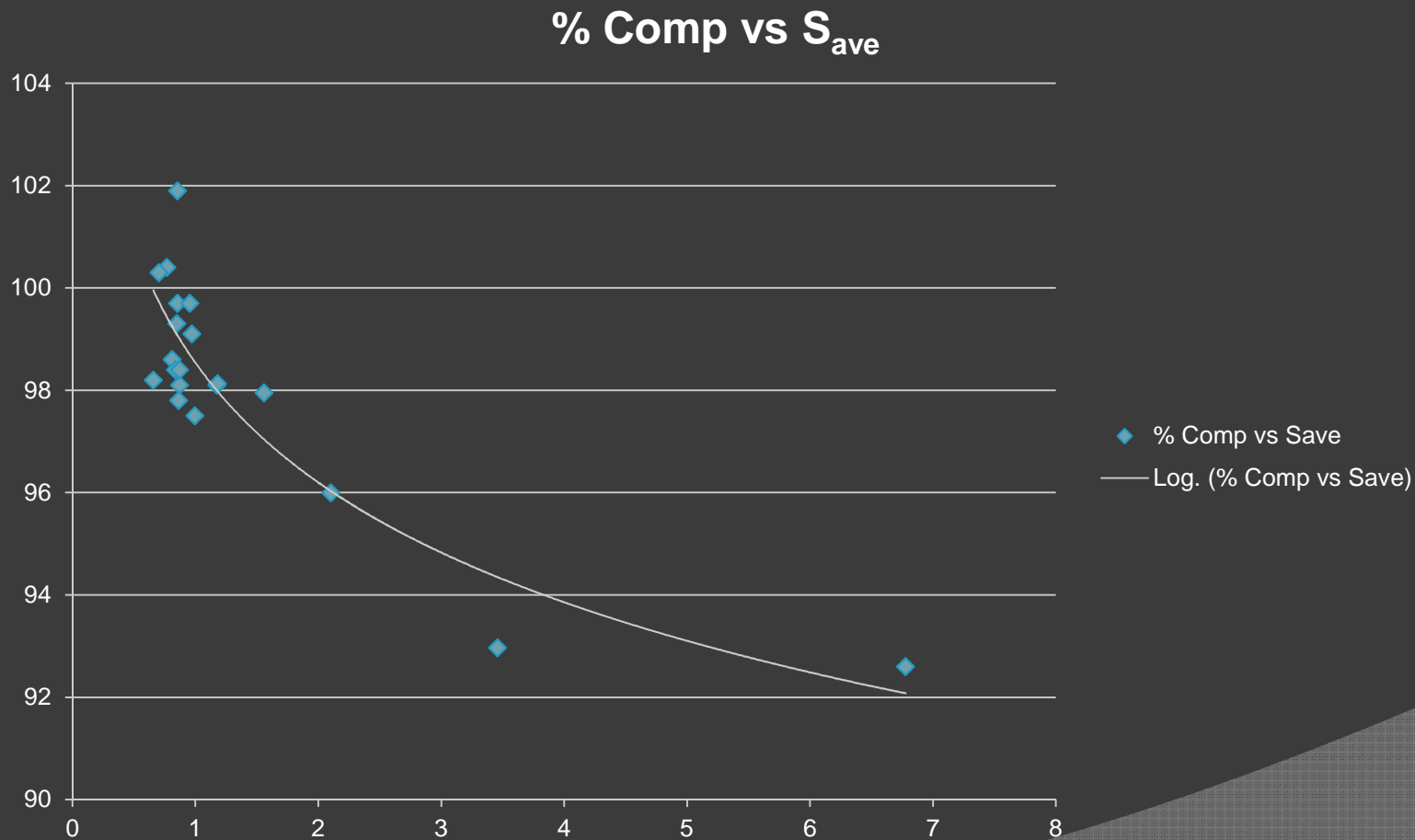


Group Index	PSI			MN/m ²		
	Optimum	Wet	Dry	Optimum	Wet	Dry
-2	20500	20000	21000	141.3	137.9	144.8
-1	16400	12500	13600	113.1	86.2	93.8
0	14100	10300	12600	97.2	71.0	86.9
1	11200	7400	10300	77.2	51.0	71.0
2	6400	4000	5000	44.1	27.6	34.5
3	7200	4100	7300	49.6	28.3	50.3
4	5700	5000	6300	39.3	34.5	43.4
5	5300	2500	6100	36.5	17.2	42.1
6	5000	2300	5900	34.5	15.9	40.7
7	4600	2500	6100	31.7	17.2	42.1
8	6200	2100	8300	42.7	14.5	57.2
9	6500	3900	8700	44.8	26.9	60.0
10	7500	5000	6100	51.7	34.5	42.1
11	8700	6100	11400	60.0	42.1	78.6
12	9800	7100	12700	67.6	49.0	87.6
13	10900	8300	13000	75.2	57.2	89.6
14	11800	9500	14500	81.4	65.5	100.0
15	12500	10400	15000	86.2	71.7	103.4
16	13200	11200	15400	91.0	77.2	106.2
17	13600	12000	15500	93.8	82.7	106.9
18	13900	12300	15200	95.8	84.8	104.8
19	13900	12800	14800	95.8	88.3	102.0
20	13600	12900	13900	93.8	88.9	95.8
21	13400	12900	13500	92.4	88.9	93.1
22	12400	11400	12800	85.5	78.6	88.3
23	11800	9800	12100	81.4	67.6	83.4
24	10300	8300	11400	71.0	57.2	78.6

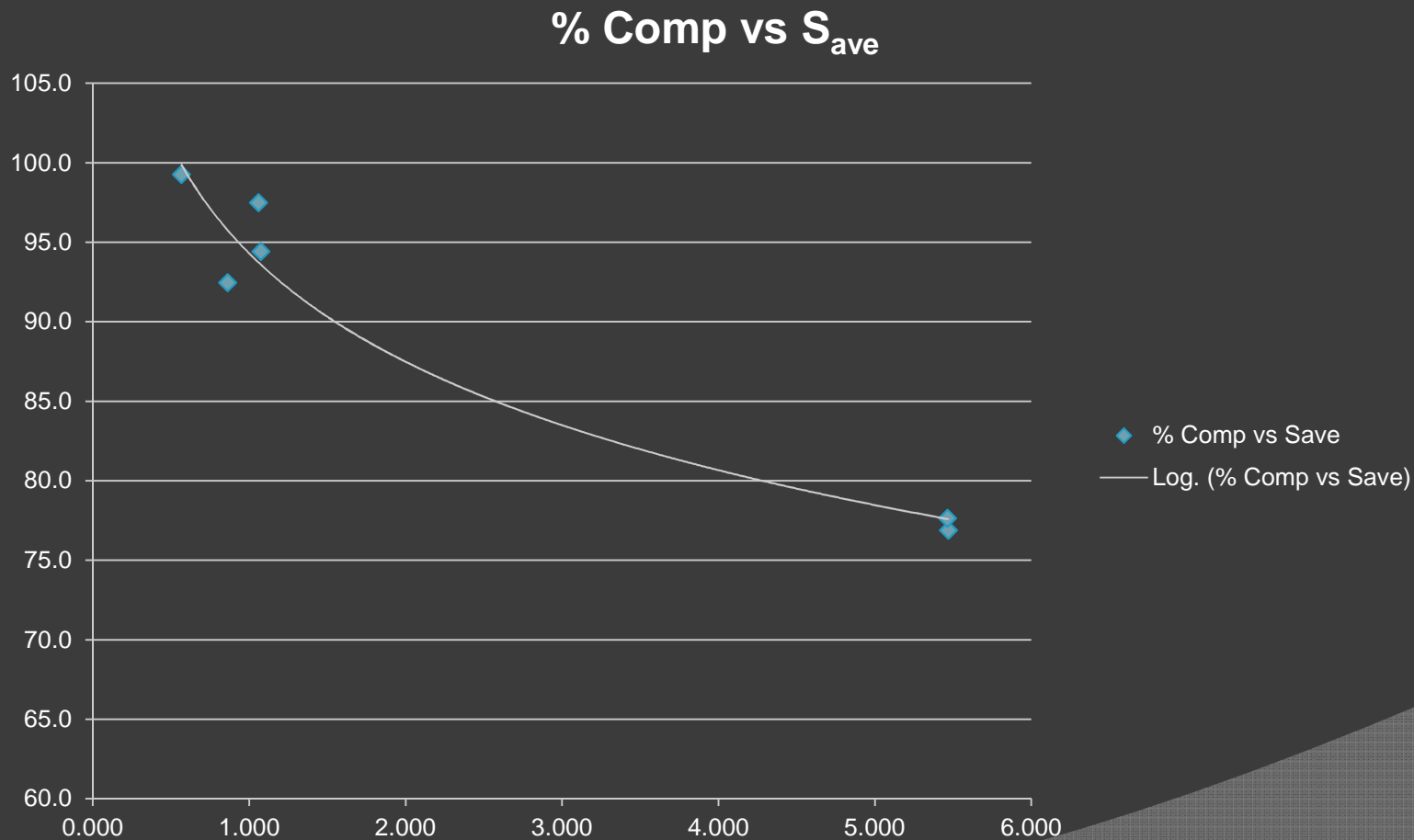
Field Tests

- LWD Tests & Nuke Tests
- Bag Samples for Lab
- Determine NGI & Moisture
- Compare Min. Deflection vs % Compaction for each Soil Type

Granular – Ave. Deflection vs % Compaction



Peoria (NGI=13) – Ave. Deflection vs % Compaction



What Next?

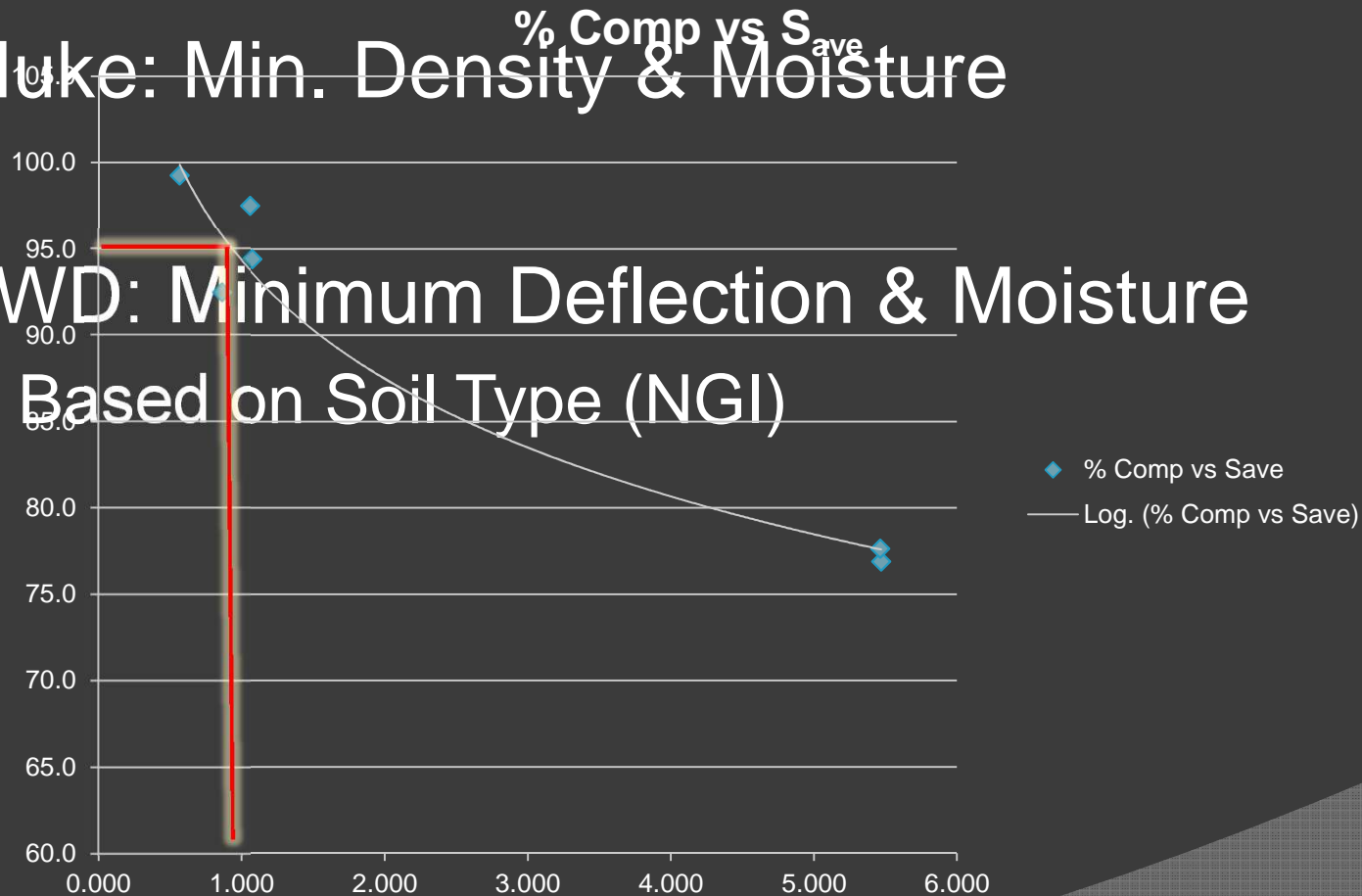
- Need to collect as much data as possible
- All soil types
- Foundation Course
- Fly Ash/ Lime Treated soils

Goals

- **Nuke: Min. Density & Moisture**

- **LWD: Minimum Deflection & Moisture**

- **Based on Soil Type (NGI)**



Goals

- ⦿ Nuke: Min. Density & Moisture
- ⦿ Minimum Deflection & Moisture
 - Based on Soil Type (NGI)
- ⦿ Each District have own LWD
- ⦿ Completely Replace Nukes with LWD

Goals

- Give us a call!

QUESTIONS?